

IN THE CLAIMS:

1.-29. (Cancelled)

30. (Currently amended) ~~A M~~monoclonal antibody ~~for use in one or more of research, diagnostics and therapy for cell death involving diseases, and/or for increasing cell death, wherein said antibody recognizes BAG3 protein and inhibits BAG3 protein activity, and wherein said antibody~~ able to recognizes recognize at least one BAG 3 protein fragment ~~in which the amino acid sequence of said fragment consists~~ consisting of a sequence selected from the group of sequences consisting of SEQ ID NOS: 15, 16, 17 and 18.

31.-33 (Cancelled)

34. (Withdrawn) Isolated polynucleotides encoding the protein and fragments according to claim 30.

35. (Cancelled)

36. (Previously presented) The antibody according to claim 30 which is secreted by the hybridomas mother clone AC-1, deposit n° PD02009 deposited on December 17 2002 at the Centro Biotecnologie Avanzate de Genova.

37. (Currently amended) ~~A H~~hybridoma mother clone AC-1, deposit n° PD02009 deposited on December 17 2002 at the Centro Biotecnologie Avanzate de Genova for production of the antibody according to claim 30.

38. (Currently amended) ~~A P~~peptide construct for immunologically generating the antibody according to claim ~~35~~30, said peptide construct being a Multiple Antigen Peptide (MAP) construct selected from the group of MAP constructs consisting of:

MAP-BAG3-1: nh2-DRDPLPPGWEIKIDPQ-MAP, comprising SEQ ID NO:15;

MAP-BAG3-2: nh2-SSPKSVATEERAAPS-MAP, comprising SEQ ID NO:16;

MAP-BAG3-3: nh2-DKGKKNAGNAEDPHT-MAP, comprising SEQ ID NO:17;

and

MAP-BAG-4: nh2-NPSSMTDTPGNPAAP-MAP, comprising SEQ ID NO:18.

39. (Withdrawn) Antisense oligonucleotides according to claim 30 having a sequence selected in the group of SEQ ID NO: 9, 10, 11.

40. (Withdrawn) A vector comprising the isolated oligonucleotide/s of claim 39.

41. (Withdrawn) An expression vector comprising the isolated oligonucleotide/s of claim.

42. (Withdrawn) A host cell genetically engineered to contain the oligonucleotide/s of claim 30.

43. (Withdrawn) A host cell genetically engineered to contain the oligonucleotide/s of claim 39 in operative association with a regulatory sequence that controls expression of the oligonucleotide in the host cell.

44. (Withdrawn) Polynucleotides and corresponding codified peptides indicated as SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 18 and constructs comprising them to modulate cell survival and/or death in primary cells.

45. (Withdrawn) Medical composition modulating the BAG3 expression comprising as active principle at least one polynucleotides and polypeptides according to claim 44.

46.-52. (Cancelled)

53. (Currently amended) A ~~D~~diagnostic agent for diagnosing a disease characterized by modulation of BAG3 protein expression, wherein said agent comprises at least one antibody according to claim 30, and wherein said at least one antibody

preferably comprises monoclonal antibody secreted by the hybridomas mother clone AC-1, deposit n° PD02009 deposited on 17 December 2002 at the Centro Biotecnologie Avanzate di Genova.

54. (Withdrawn) Method for treating cell death-involving diseases and for modulating cell survival and/or death comprising the step of administering to a subject in need an effective amount of antibodies and antisense oligonucleotides according to claim 30.

55. (Withdrawn) Method for treating cell death-involving diseases and for modulating cell survival and/or death comprising the step of administering to a subject in need an effective amount of polynucleotides and polypeptides according to claim 15.

56. (Withdrawn) Method for modulating apoptosis in primary cells comprising the step of administering to said cells an effective amount of antibodies and antisense oligonucleotides according to claim 30.

57. (Withdrawn) Method for modulating apoptosis in primary cells comprising the step of administering to said cells an effective amount of polynucleotides and polypeptides according to claim 44.

58. (Withdrawn) Method for treating a disease selected in the group of: acute or chronic tissue damages, such as heart, kidney, brain or other organ ischaemia, HIV-related damage of brain or other tissues, skeletal muscle disorders, transplantation rejection; chronic degenerative disorders such as Parkinson's disease, amyotrophic lateral sclerosis and others; and neoplastic, autoimmune and other diseases involving excessive or defective apoptosis; tissue repair or wound healing, treatment of surgical incisions, and ulcers, such as stomach or diabetic ulcers; said method comprising the step of administering to a subject in need an effective amount of antibodies and antisense oligonucleotides according to claim 30.

59. (Withdrawn) Method for treating a disease selected in the group of: acute or chronic tissue damages, such as heart, kidney, brain or other organ ischaemia, HIV-related damage of brain or other tissues, skeletal muscle disorders, transplantation

rejection; chronic degenerative disorders such as Parkinson's disease, amyotrophic lateral sclerosis and others; and neoplastic, autoimmune and other diseases involving excessive or defective apoptosis; tissue repair or wound healing, treatment of surgical incisions, and ulcers, such as stomach or diabetic ulcers; said method comprising the step of administering to a subject in need an effective amount of polynucleotides and polypeptides according to claim 44.

60. (Withdrawn) Method for detecting the presence of the nucleotide sequence SEQ ID NO: 1 or of the protein SEQ ID NO: 2 or parts of them in a sample, in particular at least a part identified as SEQ ID NO: 3, 4, 5, 6, 7, 8, 15, 16, 17, 18; said method comprising the steps of: contacting the sample with a compound that binds to and forms a complex with the nucleotide or the protein or parts thereof in sufficient conditions to form the complex, and detecting said complex.

61. (Withdrawn) Method for detecting a compound that binds to the protein SEQ ID NO: 2 or parts of it in a sample, in particular at least a part identified as SEQ ID NO: 4, 6, 8, 15, 16, 17, 18; said method comprising the steps of: contacting the compound with the protein or its part/s in sufficient conditions to form the complex compound/protein or its part/s, and detecting said complex.

62. (Currently amended) A K_{kit} for identification and diagnosis of disease characterized by ~~modulation of~~ regulation of BAG3 protein expression, said kit comprising one or more containers enclosing at least one monoclonal antibody according to claim 30.

63. (Currently amended) The diagnostic agent according to claim 53 wherein said disease is characterized by a an increase ~~decrease~~ in BAG3 protein expression and a decrease ~~increased in~~ apoptosis.

64. (Currently amended) The diagnostic agent according to claim 53 wherein said disease is B chronic lymphocytic leukemia ~~selected from the group consisting of acute tissue damage, chronic tissue damage, HIV-related tissue damage, transplantation rejection, degenerative skeletal muscle disorders, chronic degenerative disorders,~~

65.-72. (Cancelled)